REMARKS

Upon entry of the present amendment, replacement sheets for drawing Figs. 1, 3, and 6-8 will have been submitted. Additionally, a substitute specification (clean and marked-up copies) is attached hereto.

Upon entry of the present amendment, claims 1-6 will have been canceled without prejudice or disclaimer and claims 7-11 will have been submitted for consideration by the Examiner. These claims have been amended in order to clarify the features of Applicant's invention without narrowing the scope of the claims.

In view of the herein-contained amendments and remarks, Applicant respectfully requests reconsideration and withdrawal of each of the outstanding objections and rejections set forth in the above-mentioned Official Action. Such action is respectfully requested and is now believed to be appropriate and proper.

Initially, Applicant wishes to respectfully thank the Examiner for acknowledging his claim for foreign priority under 35 U.S.C. § 119 and for confirming receipt of the certified copy of the foreign priority document upon which the claim for foreign priority is based.

Applicant further respectfully thanks the Examiner for considering the Information Disclosure Statements filed on November 24, 2003, and June 16, 2006, by the return of the signed and initialed PTO-1449 Forms attached to the Information Disclosure Statements.

In the outstanding Official Action, the Examiner objected to the drawings because they utilized the term "modulation scheme" in connection with the receiver circuitry. The Examiner indicated that these legends should be changed to "demodulation scheme".

In response, Applicant has amended Figs. 1, 3, and 6-8 in accordance with the Examiner's suggestion. The Examiner is respectfully requested to review these replacement

sheets of drawings, approve them for entry and withdraw the objection to the drawings. The Examiner is further thanked for bringing this matter to Applicant's attention so that it could be corrected.

The Examiner further objected to the specification, including the abstract, for utilizing the term "modulation scheme" in combination with the receiver circuitry. Applicant notes that in response to the Examiner's objection, he has prepared and submitted a substitute specification changing the language so as to be consistent with the Examiner's suggestion. In other words, "modulation scheme" has changed to "demodulation scheme" as appropriate.

The Examiner additionally objected to the claims because of the same informality in language regarding the term "modulation scheme". By the present response, Applicant has canceled all of claims 1-6 and submitted claims 7-11 for consideration. Claims 7-11 have been prepared to avoid the noted informality.

In the outstanding Official Action, the Examiner rejected all of claims 1-6 under 35 U.S.C. § 102(b) as being anticipated by YOSHIDA (European Patent Application 0 944 200). Applicant respectfully traverses the above rejection and submits that it is inappropriate. Applicant submits that the disclosure of YOSHIDA is inadequate and insufficient to either anticipate or even to render unpatentable any of the claims pending in the present application. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the outstanding rejection together with an indication of the allowability of all the claims pending in the present application.

Applicant's invention, as recited in newly submitted claim 7, is directed to a reception method for a wireless communication system based upon adaptively selecting a plurality of modulation schemes according to variations in a propagation path characteristic. The method

includes adding a priority order to a plurality of demodulation schemes according to a reception quality or a reception level of a received signal. The method of the present invention further estimates likelihoods of the plurality of demodulation schemes for the received signal individually in descending order of the priority until a predetermined likelihood is obtained and confirming the demodulation scheme for which the predetermined likelihood is obtained as a demodulation scheme of the received signal without estimating likelihoods of demodulation schemes having a lower priority than a demodulation scheme for which the predetermined likelihood is obtained and executing demodulation of the received signal using the confirmed demodulation scheme.

It is respectfully submitted that the YOSHIDA reference relied upon by the Examiner does not teach at least the above-noted combination of features. Further, YOSHIDA also does not teach, disclose nor render obvious the combination of features recited in Applicant's other independent claims 10 and 11.

Thus, as noted above, it is a recited feature of the present invention that estimation of the demodulation scheme used for the received signal is performed sequentially in decreasing order of priority until the predetermined likelihood is obtained. However, likelihood estimation is not executed or performed for demodulation schemes having a lower priority than the demodulation scheme for which the predetermined likelihood is obtained. Accordingly, it is possible to determine the demodulation scheme that matches the actual modulated received signal according to the channel condition more rapidly.

Accordingly, it is not necessary to carry out processing corresponding to various demodulation schemes having lower priority so that the amount of processing necessary and the power consumption can both be reduced.

In direct contrast to the above-noted features of the present invention, as recited in the respective claims, YOSHIDA discloses a configuration as shown, for example, in Fig. 3 thereof, whereby each of the estimating units are arranged in parallel. Thus, the modulation schemes estimated as candidates to be a demodulation scheme of the received signal is performed utilizing all of the estimating units and for each scheme obtaining a predetermined likelihood. Accordingly, it is clear that YOSHIDA is significantly different than the recitations defining the present invention.

In other words, YOSHIDA teaches and discloses that demodulation processing is performed utilizing the demodulating units for each demodulation scheme that corresponds to a plurality of modulation schemes including a modulation scheme estimated as the modulation scheme of the received signal. YOSHIDA further discloses restricting the range of the modulation schemes for candidates, and thereby reducing the overall operation amount for estimating the demodulating scheme corresponding to the modulation scheme of the transmitted signal.

In direct contrast, according to the teachings of the present invention, priority order information is added to the plurality of demodulation schemes in accordance with the reception quality or the reception level of the received signal. Thus, the likelihood estimation executed for the plurality of demodulation schemes for the received signal is performed sequentially in order of the priority until the predetermined likelihood is obtained. Thus, the demodulation scheme, for which the predetermined likelihood is obtained, is confirmed as the modulation scheme of the received signal without executing or performing likelihood estimation of demodulation schemes having lower priorities than the demodulation scheme for which the predetermined likelihood is obtained. Accordingly, since according to the teachings of the present invention, not all of the

demodulating units are utilized, in direct contrast with YOSHIDA, according to the present invention, the amount of processing necessary and the power consumption are reduced with respect to the corresponding processing and power consumption of YOSHIDA.

In the embodiment of YOSHIDA illustrated in Fig. 8, an RSSI measuring unit 702 is disclosed. As set forth in paragraph [0116], the RSSI measuring unit estimates a modulation level at the time of transmission by making a determination with a threshold, thereby reducing the estimation range of a modulation level. Thus, the candidate schemes are reduced and the estimation of the demodulation scheme of the received signal is performed using the plurality of candidate demodulation schemes.

However, the modulation level selector 701 of YOSHIDA reduces the modulation schemes for performing estimation processing using the RSSI signal. However, even though such a modulation level selector is provided, YOSHIDA does not disclose confirming the demodulation scheme for which the predetermined likelihood is obtained as the demodulation scheme of the received signal without executing likelihood estimation of the demodulation schemes having lower priorities than the demodulation scheme for which the predetermined likelihood is obtained at, as recited in Applicant's claims.

Accordingly, Applicant respectfully submits that the present invention is clearly patentable over the disclosure of YOSHIDA whether the same is considered under 35 U.S.C. § 102 or even if considered under 35 U.S.C. § 103. There is no teaching or motivation for one of ordinary skill in the art to modify the adaptive modulation method and apparatus of YOSHIDA to at least provide the priority order information and to not execute likelihood estimation of demodulation schemes having a lower priority than the demodulation scheme for which the predetermined likelihood is obtained, as recited in Applicant's claims.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the outstanding objections and rejections set forth in the above-mentioned Official Action.

SUMMARY AND CONCLUSION

Applicant has made a sincere effort to place the present application in condition for allowance and believes that he has now do so. Applicant has amended the drawings and has submitted a substitute specification to eliminate the Examiner's objection to the terminology of the specification and drawings.

Applicant has further canceled, without prejudice or disclaimer, all the pending claims and has submitted claims 7-11 for consideration by the Examiner.

With respect to the newly submitted claims, Applicant has reviewed the recitations thereof and has compared the same with the disclosure of the reference relied upon by the Examiner. Applicant has pointed out the significant and substantial shortcomings and deficiencies of the disclosure of the reference with respect to the explicitly recited features of Applicant's invention. Applicant has also discussed the features recited in the claims and has noted the distinctions between the claimed features and the reference relied upon by the Examiner. Accordingly, Applicant has provided a clear evidentiary basis supporting the patentability of all the claims in the present application and respectfully request an indication to such effect, in due course.

Any amendments to the claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Should the Examiner have any questions or comments regarding this Response, or the present application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully Submitted,
Hiromi MATSUSAKA

William Pieprz
Reg. No. 33,630

Bruce H. Bernstein
Reg. No. 29,027

March 12, 2007
GREENBLUM & BERNSTEIN, P.L.C.
1950 Roland Clarke Place
Reston, VA 20191
(703) 716-1191